Figure 1. Limits of Photographic Diagnosis

GP Genpax

X-Ray, CT, PET

-Can't detect early stage tumors (<1mm)

-Can't distinguish
malignant tumors vs benign abnormality

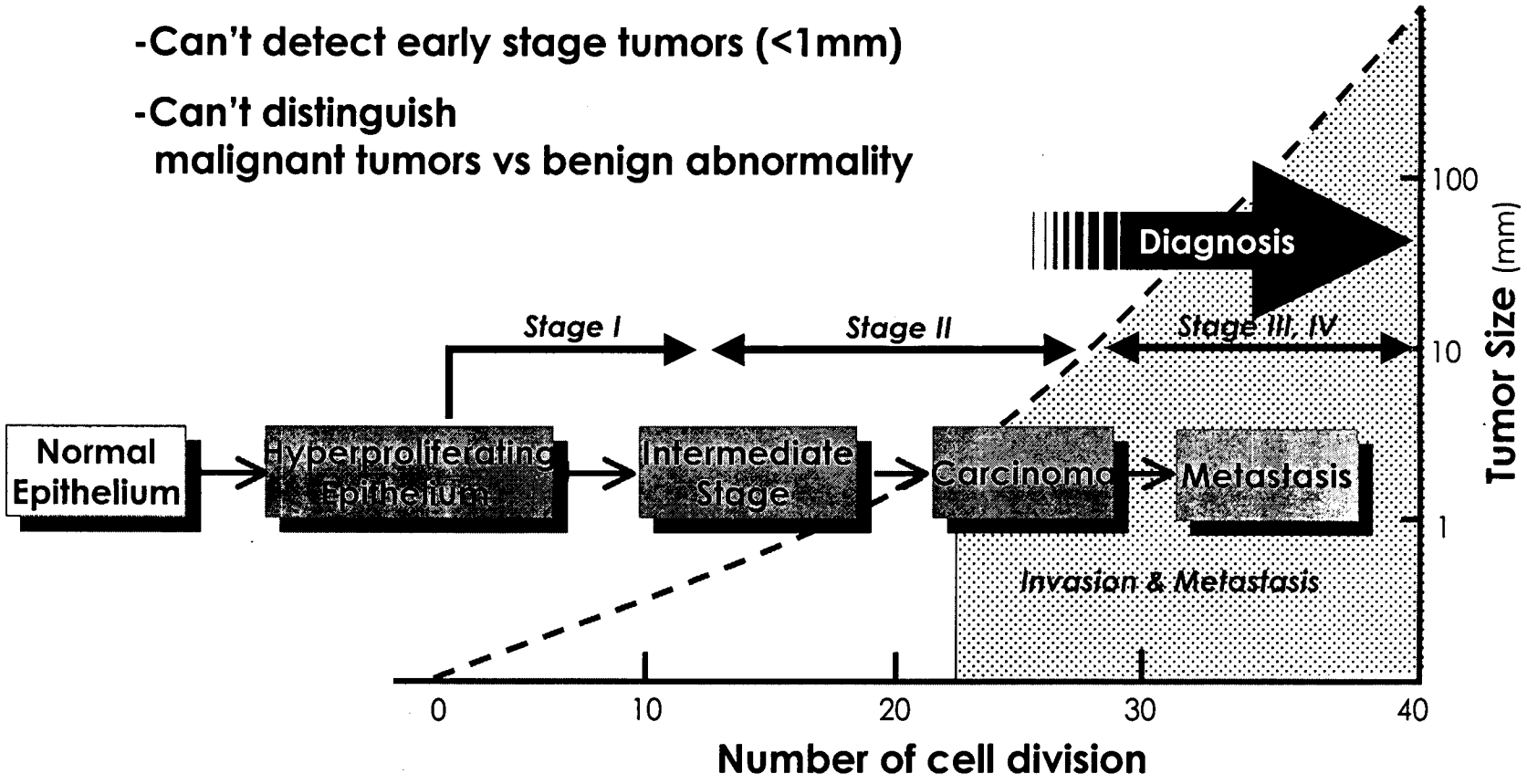
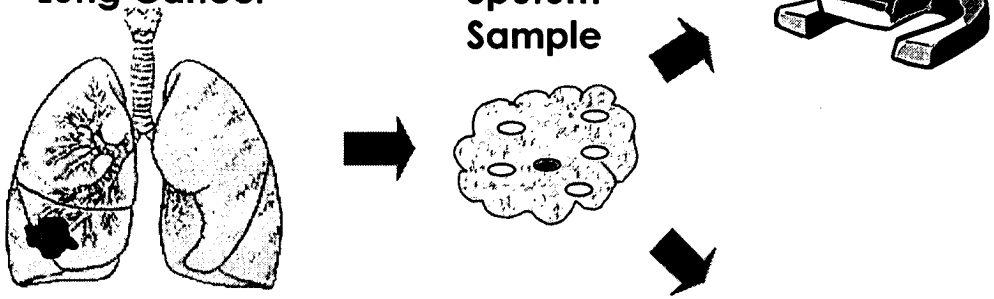


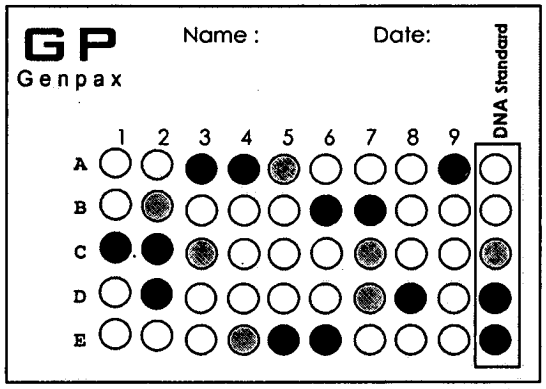
Figure 2. Cytology vs biomarker Test



Sputum Cytology

Microscopic examination

- **-Subjective**
- **-Low through-put**
- **-Simple morphology**



Sputum biomarker Test

Molecular genetic profile

- **-Objective**
- **-High through-put**
- **-Genetic information**

Figure 3. Strategic Comparison

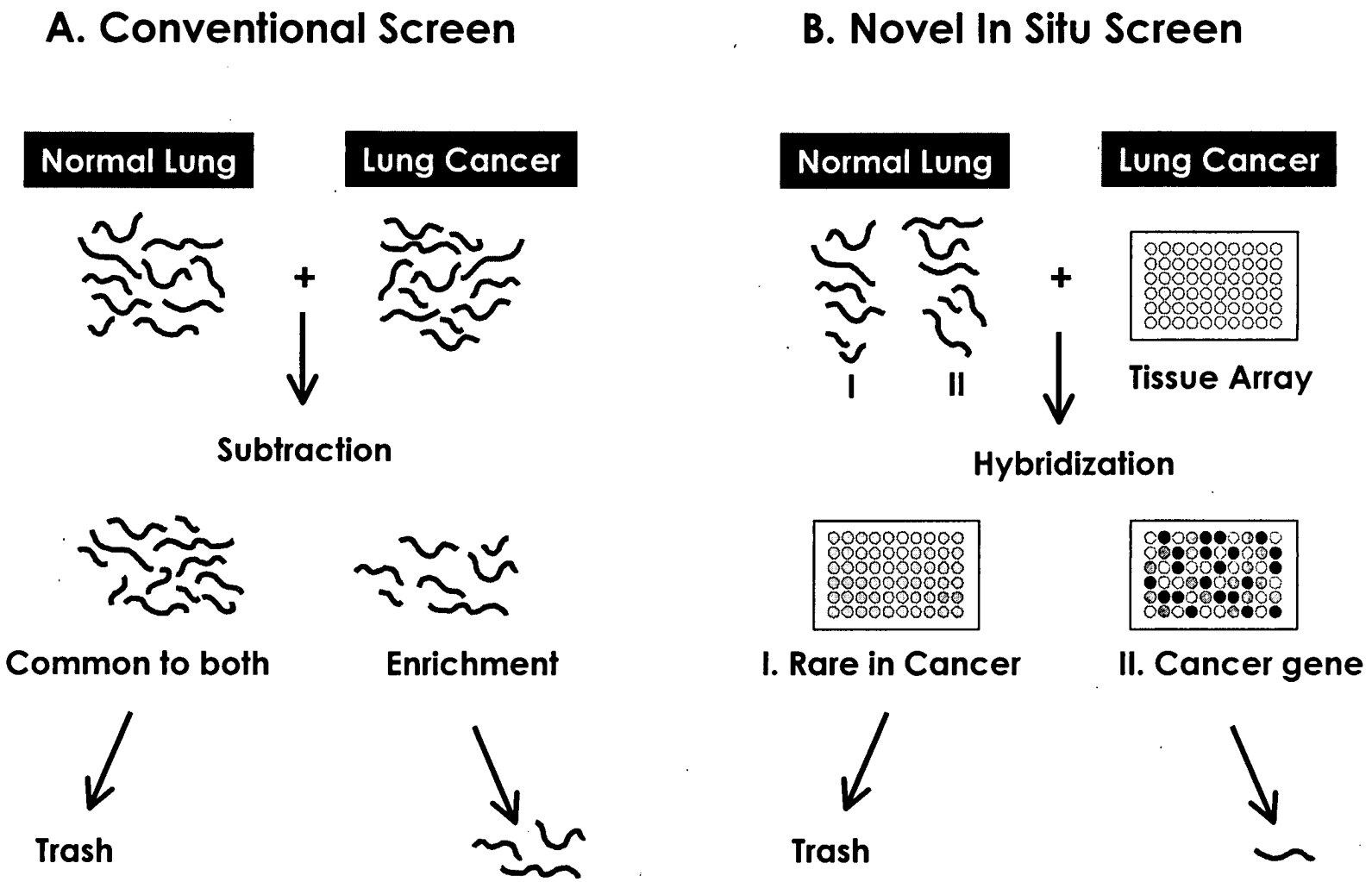


Figure 4. Target genes to be discovered

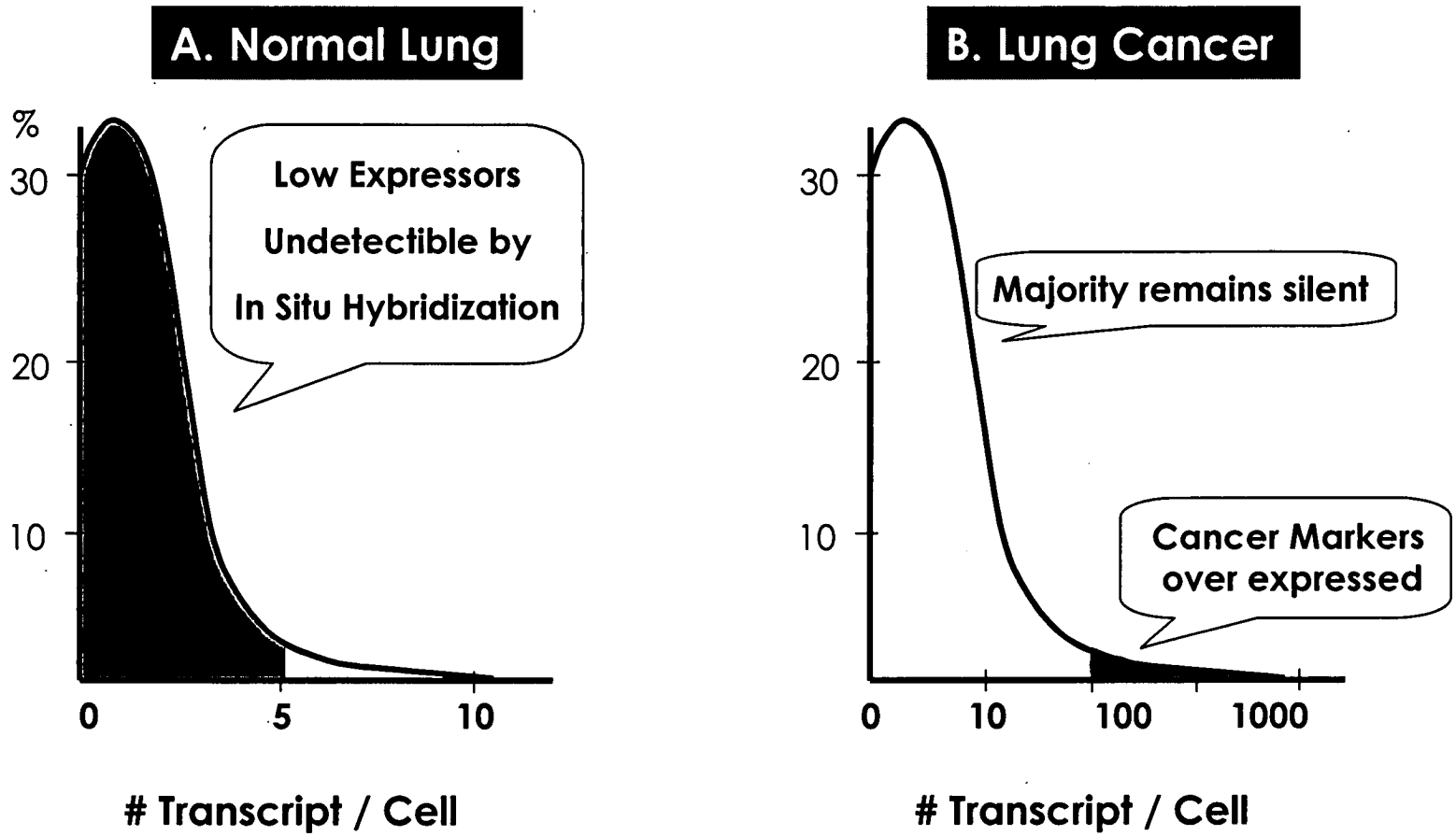


Figure 5. Experimental Flow Chart

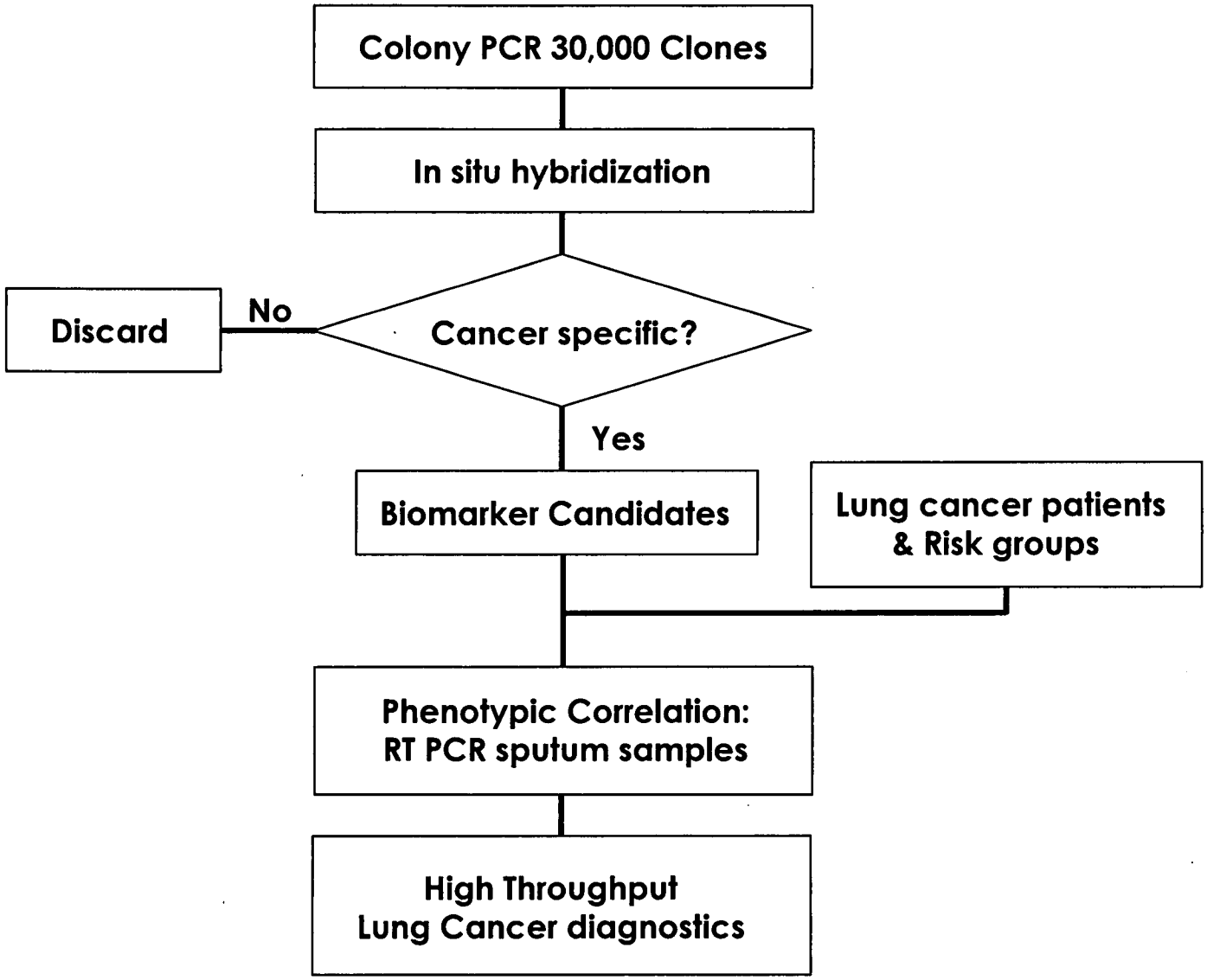


Figure 6. New Lung Cancer Markers

GP Genpax

No.	**Identity** (chromosomal location)	**Expression** Low	medium	high
1	**MACF1 mRNA**	55	0	5
2	No Homology (17)	145	27	8
3	No Homology (16)	121	47	12
4	**EIF4A1 mRNA (17)**	121	47	12
5	No Homology	57	96	27
6	No Homology(15)	42	15	2
7	**No Homology (6)**	59	104	17

Figure 7. Expression patterns (4)

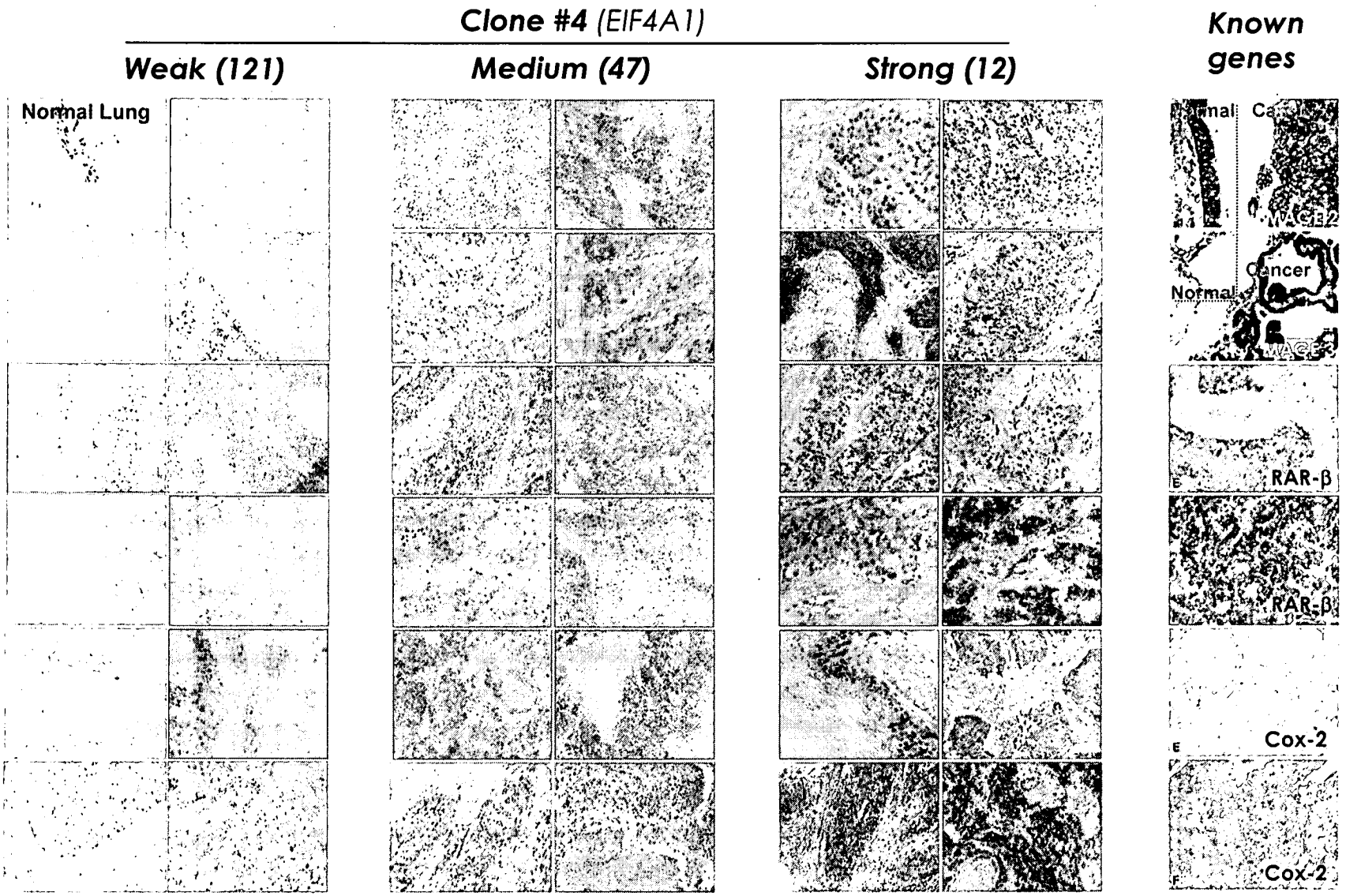


Figure 8. Aim of Molecular Diagnostics

Genpax

Algorithm to connect genotypes to phenotypes